

Welcome to Nodkant

In this study, **we evaluate the capabilities of a network physicalization toolkit.**

You will complete different tasks related to **node-link diagrams** with the help of the tools we provide you with.

These tasks may include **construction** and/or **investigation** of physical node-link diagrams.

For each task **we will provide you with detailed instructions.**

We will measure **time** and **error rate** for the different experience as well as **perceived task load.**

Even if time is measured, **focus on completing the task successfully.**

We will collect **personal data for statistical purposes**, we will make sure that the data cannot be associated with your name. This includes age, gender identity, as well as your experience with network data visualization.

We will film the experiments with the camera setup on site. This material will only be used for analysis and will not be published. We will not record your face; only your upper limbs are visible while you are interacting with the tool.

You are allowed to touch and interact with the objects you are handed freely. Please do so in a non-destructive manner.

You may end the experiment without justification at any point.

If you have any questions during the experiments do not hesitate to let us know.

* Indicates required question

1. Participant Group *

Mark only one oval.

☐ A

☐ B

☐ C

2. Unique Participant ID *

3. *

Tick all that apply.

☐ I have received and signed the study information and data protection sheet and signed the consent form.

Participant Info

4. Age *

5. Gender Identity *

Mark only one oval.

☐ Male

☐ Female

☐ Prefer to self-describe (see next question)

☐ Prefer not to say

6. Self-Described Gender Identity

7. Education *

Mark only one oval.

- ☐ No degree
- ☐ High School
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Ph.D. or higher

8. How would you rate your experience in working with **node-link diagrams**? *

Mark only one oval.

- ☐ None: I have never worked with node-link diagrams.
- ☐ Basic: I know the basic concepts of node-link diagrams (what is a node, what is an edge).
- ☐ Advanced: I know advanced concepts in conjunction with node link diagrams (what is a loop, fan, star, bridge, etc.) or have had high level education about networks.
- ☐ Expert User: I used or have used network diagrams in a professional context (e.g. for biomedical research etc.)
- ☐ Expert Researcher: I am an expert in network visualization/graph drawing (I have published (or currently intend to publish) scientific work in the field of network visualization).

An introduction to node-link diagrams

In this section, we will give you a brief overview of node-link diagrams.

In the basic form you will examine the concept today, node-link diagrams (or graphs) are visual representations of the **relationships of entities**. You can see such a node-link diagram below.

A **node** represents an **entity**. A typical visual representation is a circle, sometimes containing a label with a name or id.

The **relationship** between nodes is represented by an **edge**. Edges are usually denoted as (straight) lines that connect nodes.

An example: In a **social network** a node represents a person. The edge can represent an interpersonal relationship like "**person a is friends with person b**".

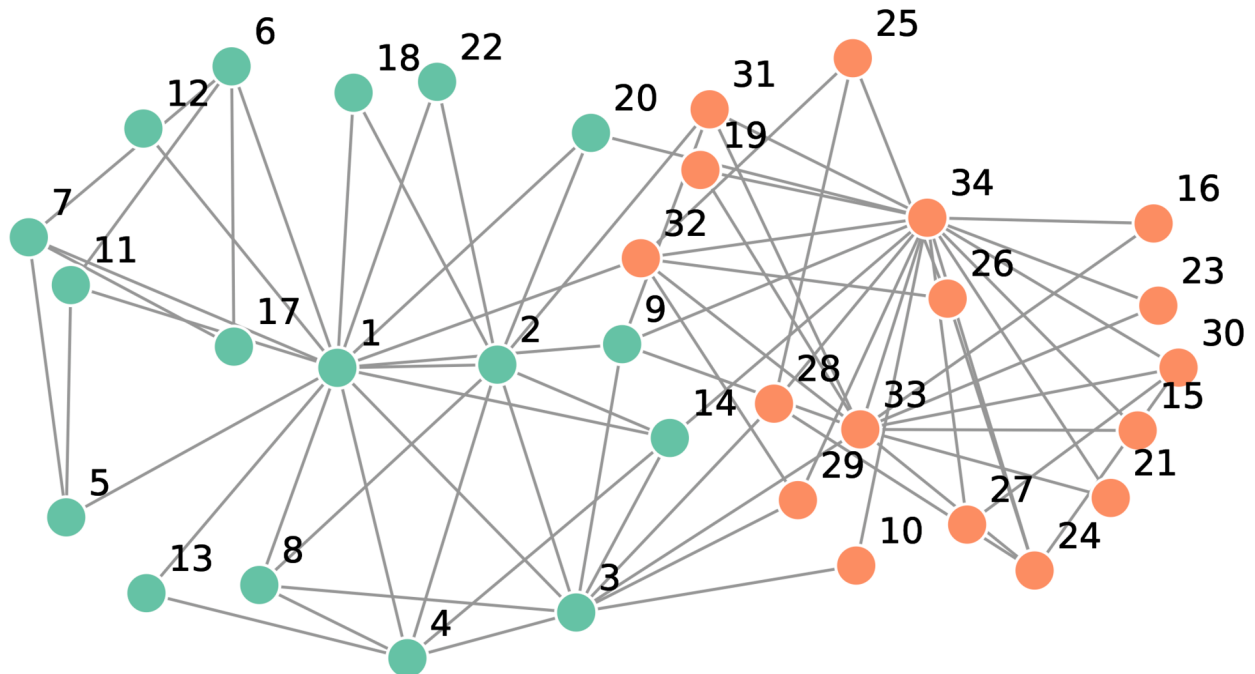
Naturally, a person can be friends with multiple other people, thus **a node can have multiple edges** connecting it to other nodes.

A relationship can also be an interaction between the entities like connections in an internet platform, or a phone call that happened.

This way we can visualize the relationship between a set of people as a graph.

An example of a social network. Entities are (former) members of a karate club that split up when two central people had a falling out. Two new groups formed out of the members, centered around either.

See: "Zachary's Karate Club", Wikipedia.



In our case we will examine **animal contact networks**. The **nodes are animals** (in our case raccoons) and a connection exist when they were **observed in close proximity** for a given time. This can be used for example to infer **social structures** or track the **spread of diseases**.

9. *

Tick all that apply.

☐ I received the onboarding on node-link diagrams. I now understand how data is represented in node-link diagrams. I understand how node-link diagrams are used in the course of this study.

☐ Recording is running!

Google Forms

